IN THE CLAIMS

1. (Currently Amended) A method for removing a halogen-containing residue from a substrate, the method comprising the steps of:

providing an etched substrate having a halogen-containing residue, comprising at least one of chlorine or bromine, formed during etching of a polysilicon layer of the substrate;

heating the etched substrate to a temperature of at least 50°C in a gas mixture comprising oxygen and nitrogen; and

exposing the heated substrate to a plasma that removes the halogen-containing residue.

2. (Original) The method of claim 1, wherein the exposing step further comprises maintaining the temperature of the substrate between from about 50°C to about 450°C.

3. (Original) The method of claim 1, further comprising forming the plasma by energizing a gas mixture in a remote plasma reactor.

4. (Original) The method of claim 1, wherein the halogen-containing residue comprises bromine.

5. (Original) The method of claim 4, wherein the plasma comprises an oxygen-containing gas.

6. (Original) The method of claim 5, wherein the oxygen-containing gas comprises an oxidizing agent selected from the group consisting of oxygen, water vapor and ozone, and an additive selected from the group consisting of nitrogen, argon and helium.

7. (Original) The method of claim 1, wherein the halogen-containing residue comprises chlorine.

8. (Original) The method of claim 7, wherein the plasma comprises a hydrogen-containing gas.

9. (Currently Amended) The method of claim 8, wherein the plasma ~~further comprises oxygen, and the hydrogen-containing gas~~ comprises ~~at least one of~~ hydrogen, water vapor, ~~or a forming gas~~ oxygen, and nitrogen.

10. (Cancelled)

11. (Currently Amended) The method of claim [[10]] 1, wherein the exposing step further comprises maintaining the temperature of the substrate at about 250°C.

12. (Original) The method of claim 6, wherein the flow ratio of oxygen to nitrogen is about 10:1.

13. (Original) The method of claim 9, wherein the flow ratio of oxygen to hydrogen is from about 150:1 to about 5:1, and the flow ratio of hydrogen to water vapor is from about 2:1 to about 1:1.

14. (Currently Amended) The method of claim 9, ~~further comprising~~ wherein the hydrogen and nitrogen are at least partially provided via a forming gas having a flow rate of from about 500 to 5000 sccm.

15. (Original) The method of claim 9, wherein the flow rate of water vapor is from about 100 to 3000 sccm.

16. (Original) The method of claim 9, wherein the flow ratio of oxygen to water vapor of from about 10:1 to 3:1.

17. (Original) The method of claim 6, further comprising maintaining the oxygen-containing gas at a pressure of from about 0.5 to about 2 Torr.

18. (Original) The method of claim 6, wherein the duration of the exposing step is from about 15 to about 90 seconds.

19. (Original) The method of claim 9, further comprising maintaining the hydrogen-containing gas at a pressure of from about 0.5 to about 2 Torr.

20. (Original) The method of claim 9, wherein the duration of the exposing step is from about 15 to about 60 seconds.

21. (Currently Amended) A method for removing a halogen-containing residue from a substrate, the residue formed during etching of the substrate, the method comprising the steps of:

providing a substrate having a polysilicon layer on the substrate;

etching the polysilicon layer and forming a halogen-containing residue comprising at least one of chlorine or bromine on the substrate;

heating the substrate to a temperature of at least [[150°C]] 50°C in a gas mixture comprising oxygen and nitrogen; and

exposing the heated substrate to a plasma that removes the halogen-containing residue.

22. (Currently Amended) The method of claim 21, wherein the exposing step comprises maintaining the temperature of the substrate between [[150°C]] 50°C and 400°C.

23. (Original) The method of claim 21, further comprising forming the plasma by energizing a gas mixture in a remote plasma reactor.

24. (Cancelled)

25. (Original) The method of claim 21, wherein the etching step comprises etching the substrate with a gas mixture comprising a halogen gas and a reducing gas.

26. (Original) The method of claim 21, wherein the halogen-containing residue comprises bromine.

27. (Original) The method of claim 26, wherein the plasma comprises an oxygen-containing gas.

28. (Previously Presented) The method of claim 27, wherein the oxygen-containing gas comprises an oxidizing agent selected from the group consisting of oxygen, water vapor and ozone and an additive selected from the group consisting of nitrogen, argon and helium.

29. (Original) The method of claim 21, wherein the halogen-containing residue comprises chlorine.

30. (Original) The method of claim 29, wherein the plasma comprises a hydrogen-containing gas.

31. (Currently Amended) The method of claim 30, wherein the ~~hydrogen-containing gas~~ plasma comprises hydrogen, water vapor, oxygen and nitrogen.

32-34. (Cancelled)

35. (New) The method of claim 1, further comprising heating the substrate in a gas mixture of oxygen and nitrogen for a duration of about 10 to about 20 seconds.

36. (New) The method of claim 1, wherein the gas mixture of oxygen and nitrogen are provided at flow rates of about 5000 sccm of oxygen and about 500 sccm of nitrogen.

37. (New) The method of claim 1, wherein the gas mixture of oxygen and nitrogen are provided at an O_2:N_2 flow ratio of about 10:1.

38. (New) The method of claim 1, wherein the substrate is heated at a pressure of greater than about 1 Torr.

39. (New) The method of claim 21, further comprising heating the substrate in a gas mixture of oxygen and nitrogen for a duration of about 10 to about 20 seconds.

40. (New) The method of claim 21, wherein the gas mixture of oxygen and nitrogen are provided at flow rates of about 5000 sccm of oxygen and about 500 sccm of nitrogen.

41. (New) The method of claim 21, wherein the gas mixture of oxygen and nitrogen are provided at an O_2:N_2 flow ratio of about 10:1.

42. (New) The method of claim 21, wherein the substrate is heated at a pressure of greater than about 1 Torr.